

REMARKS

In the Office Action, the Examiner rejected claims 7-11, 13-18, and 20-25 under 35 U.S.C. § 112, second paragraph; rejected claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Publication No. 2000-310850 (“JP’850”); and rejected claims 12 and 19 under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Publication No. 2001-319871 (“JP’871”). The Examiner also cited U.S. Patent No. 6,226,074 to Fujisawa et al. and U.S. Patent No. 6,607,863 to Irie, apparently because they are counterparts to JP’850 and JP’871, respectively (see Form PTO-892 attached to the Office Action). JP’850 and JP’871 are not in English. Accordingly, out of convenience, the rejections under 35 U.S.C. § 102(b) are discussed below with reference to the U.S. patents to Fujisawa et al. and Irie.

Applicant has amended claims 1, 7, 13, and 20. Claims 1-25 are pending in the above-captioned patent application.

Applicant respectfully traverses the Examiner’s rejection of claims 7-11, 13-18, and 20-25 under 35 U.S.C. § 112, second paragraph. The Examiner contends that in claims 7, 13, and 20, “[i]t is not clear whether the term ‘between monitor resist patterns’ denotes between which position and which other position.” Office Action at page 2. Further, according to the Examiner “[i]t is also not clear in reference to what the displacement is occurring.” *Id.* Although Applicant believes the claims are clear, Applicant has amended claims 7, 13, and 20 to recite “measuring a first pattern displacement, the first pattern displacement being a sum of a displacement of the first monitor resist pattern and a displacement of the third monitor resist pattern” and “[measuring] a second pattern displacement, the second pattern displacement being a sum of a displacement of the second monitor resist pattern and a displacement of the

fourth monitor resist pattern" (please see Attachment). Support for these changes to claims 7, 13, and 20 may be found in the specification, for example, in the paragraph spanning page 20, line 25 to page 21, line 10. See also equations (2) and (3) at page 2 of Applicant's Supplemental Amendment filed September 29, 2005, which define exemplary first (S1) and second (S2) displacements. In light of the changes to claims 7, 13, and 20, Applicant respectfully requests that the rejection of claims 7-11, 13-18, and 20-25 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Since claims 7-11, 13-18, and 20-25 were only rejected under 35 U.S.C. § 112, second paragraph, and further since this rejection has been overcome, Applicant respectfully requests that claims 7-11 be allowed in the next Office Action.

Applicant respectfully traverses the Examiner's rejection of claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by Fujisawa et al. Claim 1, for example, is not anticipated by Fujisawa et al. because the reference fails to teach each and every element of the claim. In particular, Fujisawa et al. at least fails to teach the claimed third exposure monitor portion provided in a "position corresponding to the first opaque portion upon *alignment with a transferred image by the first mask portion [of the reticle]*" (emphasis added), as recited in claim 1.

The Examiner relies on Figs. 14 and 18 in asserting that "[t]he reference [to Fujisawa et al.] discloses an exposure monitor pattern formed by two window portions increasing in optical transmittance in different directions." Office Action at page 3. The Examiner further alleges, without citation to any portion of the reference, that Fujisawa et al. teaches a "mask .. used to make the double exposure." *Id.*

At the outset, Applicant submits that the Examiner has failed to address the specific language of claims 1-6 in formulating the rejection based on Fujisawa et al. Claims 1-6, therefore, are allowable at least for this reason.

In addition, contrary to the Examiner's assertions, Fujisawa et al. fails to teach any double exposure whatsoever. In particular, Fujisawa et al. describes resist exposure only in connection with the flowcharts shown in Figs. 4 and 15. In both instances, Fujisawa et al. discloses a single exposure: of one area of a resist film in Fig. 4, and of multiple areas of a resist film in Fig. 15 (col. 10, lines 49-53). Fujisawa et al. further teaches in each case that “[a]fter exposure, the resist is developed” (col. 7, lines 8-11 and col. 10, line 66-col. 11, line 1). Accordingly, no further exposure of the resist takes place.

Since, as noted above, Fujisawa et al. fails to disclose further exposing a previously exposed portion of a resist film, the reference fails to teach alignment of a reticle to a previously exposed area of the resist film, as a precursor to such further exposure. Likewise, Fujisawa et al. is silent as to alignment of a reticle to a *transferred image* in the exposed area of the resist film. Accordingly, Fujisawa et al. fails to teach the claimed third exposure monitor portion provided in a “position corresponding to the first opaque portion upon *alignment with a transferred image by the first mask portion* [of the reticle]” (emphasis added), as recited in claim 1.

Claim 1 is thus allowable over Fujisawa et al. and claims 2-6 are allowable at least due to their dependence from claim 1.

Applicant respectfully traverses the Examiner's rejection of claims 12 and 19 under 35 U.S.C. § 102(b) as being anticipated by Irie. The Examiner cites to

paragraphs 0112 and 0115-122, presumably of JP'871, and concludes that “[t]he reference discloses correcting an exposure dose for the fogging exposure dose by obtaining the fogging exposure dose ... by overlaying two steps of exposure.” Office Action at page 3. Applicant respectfully submits that here again the Examiner has failed to address the language of claims 12 and 19 with any specificity, and has thus not established that Irie anticipates these claims.

In any event, the cited portions of JP'871 apparently correspond to col. 24, line 35 – col. 25, line 9 and col. 25, line 47- col. 27, line 26 of Irie. As discussed in these portions of columns 24-27, Irie discloses a method of eliminating the “increase in the exposure due to the effect of flare in overlay parts” (col. 25, lines 3-9) between adjacent exposed sections of a substrate. See, for example, sections p1, p3, and p5 in Fig. 8A. The Examiner apparently associates teachings of “flare” in Irie with the claimed fogging.

As part of the method described in the cited portions of Irie, however, an illumination distribution is measured with an illumination distribution detection sensor 126, which includes a photoelectric sensor 56 (see Fig. 5a). No resist films are deposited or exposed in order to determine the amount of flare. Accordingly, the cited portions of Irie fail to teach the claimed “transferring the first image ... *onto the working resist film* by an exposure dose obtained by subtracting the second fogging exposure dose from the first exposure dose” (emphasis added) and “transferring the second image ... *onto the working resist film* by an exposure dose obtained by subtracting the first fogging exposure dose from the second exposure dose” (emphasis added), as recited in claim 12. Claim 12 is thus allowable over Irie.

Claim 19, while of different scope, recites limitations similar to those recited in claim 12. For example, claim 19 recites “transferring the first image … *onto the working resist film* by an exposure dose obtained by subtracting the second fogging exposure dose from the first exposure dose” (emphasis added) and “transferring the second image … *onto the working resist film* by an exposure dose obtained by subtracting the first fogging exposure dose from the second exposure dose” (emphasis added). Claim 19, therefore, is allowable over Irie at least for reasons discussed above in regard to claim 12.

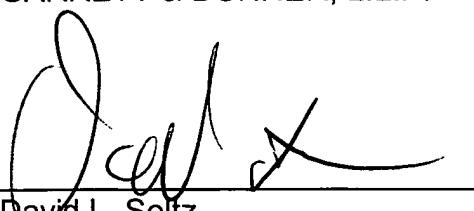
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: _____


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